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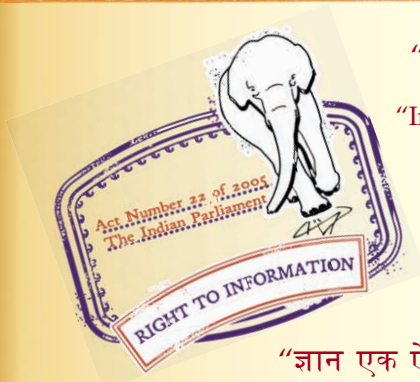
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IS 4875 (1975): Edible Groundnut Flour (Solvent Extracted)
[FAD 16: Foodgrains, Starches and Ready to Eat Foods]



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“Knowledge is such a treasure which cannot be stolen”

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Indian Standard

SPECIFICATION FOR EDIBLE GROUNDNUT
FLOUR (SOLVENT EXTRACTED)

(*First Revision*)

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BUREAU OF INDIAN STANDARDS
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Indian Standard

SPECIFICATION FOR EDIBLE GROUNDNUT FLOUR (SOLVENT EXTRACTED)

(*First Revision*)

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AMENDMENT NO. 1 DECEMBER 1978
TO
IS : 4875-1975 SPECIFICATION FOR EDIBLE
GROUNDNUT FLOUR (SOLVENT EXTRACTED)
(*First Revision*)

Alterations

(*Page 4, clause 2.1.2, third sentence*) — Substitute the following for the existing matter:

'It shall be free from insect and fungal infestation. It shall also be free from harmful foreign oilcakes such as castor and *MIHU.1* when tested according to the methods prescribed in 11 and 12 respectively of IS : 7874 (Part I)-1975† as also from *NEEM* cake and other foreign materials such as jaggery and molasses.'

(*Page 4, foot-notes with ' † ' and ' ‡ ' marks*) — Substitute the following for the existing foot-notes:

'†Methods of sampling and test for animal feeds and feeding stuffs: Part I General methods.'

(*Page 5, Table 1*)

- a) *Sl No.* (vi) — Delete and renumber the subsequent items accordingly.
- b) *Sl No.* (viii) [*renumbered as (vii)*] — Substitute ' 40.0 ' for ' 60.0 '.

(AFDC 37)

AMENDMENT NO. 2 NOVEMBER 1979
TO
IS:4875-1975 SPECIFICATION FOR EDIBLE GROUNDNUT
FLOUR (SOLVENT EXTRACTED)

(First Revision)

Alteration

[Page 5, Table 1, col 3, against Sl No. (vii) (see
Amendment No. 1)] - Substitute '30.0' for '40.0'.

(AFDC 37)

Reprography Unit, BIS, New Delhi, India

AMENDMENT NO. 3 FEBRUARY 2004
TO
IS 4875 : 1975 SPECIFICATION FOR EDIBLE
GROUNDNUT FLOUR (SOLVENT EXTRACTED)
(*First Revision*)

[*Page 5, Table 1, Sl No. (ix), col 2*] — Substitute 'Hexane (food grade), ppm, *Max*' for 'Residual solvent, parts per million, *Max*'.

[*Page 5, Table 1, Sl No. (ix), col 3*] — Substitute '10' for '170'.

[*Page 6, Table 2, Sl No. (iii), col 2*] — Substitute 'Salmonella bacteria per 25 g' for 'Salmonella bacteria'.

(FAD 16)

Reprography Unit, BIS, New Delhi, India

Indian Standard
SPECIFICATION FOR EDIBLE GROUNDNUT
FLOUR (SOLVENT EXTRACTED)
(*First Revision*)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 30 October 1975, after the draft finalized by the Nutrition Sectional Committee had been approved by the Agricultural and Food Products Division Council.

0.2 Edible groundnut flour is well recognized as a rich source of dietary protein. Its properties, such as taste, odour and colour, have led to its use in many food products like biscuits, *BALAHAR* and other snack foods.

0.3 This standard was first published in 1968. Consequent upon improvement in the quality of the edible groundnut flour produced commercially, it was felt that the standard required to be modified. Accordingly this revision is being issued. In this revision the requirement for available lysine has been excluded, limit for crude protein and acid insoluble ash increased, limit for aflatoxin reduced, description of raw material preparation elaborated and the limits for residual solvent given.

0.4 One of the toxicants which is usually present is aflatoxin, produced by a fungus (*Aspergillus flavus*). It is now well-established that aflatoxin is harmful to human beings when ingested even in minute quantities. It, therefore, becomes imperative that the edible flour is produced under strictly controlled hygienic conditions. Under optimum conditions of growth, harvesting, drying, the toxin content can be almost negligible. At the same time several methods have been developed for detoxification of the aflatoxin present in edible groundnut flour, by treatment with chemicals like ammonia, hydrogen peroxide and certain oxidizing agents. Simultaneously, these treatments bring about a lowering of the nutritive value of the edible groundnut protein product through destruction of the sulphur amino acids. Therefore, safe methods of making edible groundnut protein products of good nutritive value and low aflatoxin content are either by treating groundnut pods in the field to avoid fungal contamination, or by manually removing fungus-affected kernels before processing the remainder, or by using

groundnut naturally resistant to fungus. At present manual removal of fungus-affected kernel is adopted for commercial production of edible groundnut flour, and products with an aflatoxin content well below the prescribed limit are regularly obtained.

0.5 This standard has been formulated in close collaboration with the Protein Foods and Nutrition Development Association of India. In the preparation of this standard due consideration has been given to the provisions of the Solvent Extracted Oil, De-oiled Meal and Edible Flour (Control) Order, 1967; Prevention of Food Adulteration Act, 1954; and the Rules framed thereunder. However, this standard is subject to the restrictions imposed under these, wherever applicable.

0.6 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the requirements and the methods of sampling and test for edible groundnut flour (solvent extracted).

2. REQUIREMENTS

2.1 Raw Material — Solvent extracted edible groundnut flour shall be made from fresh, clean, degermed groundnut kernels which have been decuticled after mild roasting.

2.1.1 In order to reduce the proportion of immature, shrivelled and mouldy kernels which could carry higher levels of aflatoxin the kernels should be selected either by visual inspection, inspection under ultraviolet light, electronic sorting or by other means. The kernels shall be first expelled, followed by solvent extraction or by direct extraction of kernels.

2.1.2 The screwpress cake when used shall be disintegrated into large chunks of about one to two millimetres and extracted in solvent in a continuous or a batch type solvent extractor. After removal of the fat the edible groundnut cake shall be desolventized under vacuum in a desolventizer in such a manner that the temperature of the cake during the process does not exceed 60°C. It shall be free from insect or fungal infestation and from toxic oilcakes, such as castor or *MAHUA* when tested according to the methods prescribed in 11 of IS : 1714-1960† and Appendix A of IS : 1712-1970‡ respectively.

*Rules for rounding off numerical values (revised).

†Methods of sampling and test for oilcakes as livestock feed.

‡Specification for cottonseed oilcake as livestock feed (first revision).

2.2 Description — The solvent extracted-edible groundnut flour shall be whitish to light brown in colour, uniform in composition and shall be free from insect or fungal infestation, objectionable odour and rancid taste. It shall not contain added flavouring and colouring agents or any other extraneous matter.

2.3 Particle Size — Unless otherwise specified the material shall be of such fineness that, when tested by the method prescribed in Appendix A of IS:4684-1975*, not more than 5 percent by mass shall be retained on a 710-micron IS Sieve (see IS: 460-1962†) and not more than 20 percent by mass shall be retained on a 500-micron IS Sieve.

2.4 Premises — Place where manufacture, packing and storage of the material is done, and the equipment employed, shall be maintained under hygienic conditions (see IS:2491-1972‡).

2.5 Edible groundnut flour (solvent extracted) shall also comply with the requirements given in Table 1.

**TABLE 1 REQUIREMENTS FOR EDIBLE GROUNDNUT FLOUR
(SOLVENT EXTRACTED)**

SL No.	CHARACTERISTICS	REQUIRE- MENT	METHOD OF TEST, REF TO APPENDIX OF	
			IS : 4876-1968*	IS : 4684-1975†
(1)	(2)	(3)	(4)	(5)
i)	Moisture, percent by mass, <i>Max</i>	8.0	—	B
ii)	Protein ($N \times 6.25$) (on dry basis), percent by mass, <i>Min</i>	48.0	—	C
iii)	Total ash (on dry basis), percent by mass, <i>Max</i>	5.0	—	D
iv)	Acid-insoluble ash (on dry basis), percent by mass, <i>Max</i>	0.38	—	E
v)	Fat (on dry basis), percent by mass, <i>Max</i>	1.5	—	F
vi)	Acid value of extracted fat, <i>Max</i>	4.0	—	G
vii)	Crude fibre (on dry basis), percent by mass, <i>Max</i>	5.0	—	H
viii)	Aflatoxin, $\mu\text{g/kg}$, <i>Max</i>	60.0	—	J
ix)	Residual solvent, parts per million, <i>Max</i>	170	A	—

*Specification for edible cottonseed flour (solvent extracted).

†Specification for edible groundnut flour (expeller pressed) (first revision).

*Specification for edible groundnut flour (expeller pressed) (first revision).

†Specification for test sieves (revised).

‡Code for hygienic condition for food processing units (first revision).

2.6 Bacteriological Requirements — The edible groundnut flour (solvent extracted) shall be tested periodically to comply with the requirements given in Table 2.

TABLE 2 BACTERIOLOGICAL REQUIREMENTS FOR EDIBLE GROUNDNUT FLOUR (SOLVENT EXTRACTED)

SL. No.	CHARACTERISTIC	REQUIREMENT	METHOD OF TEST, REF TO
(1)	(2)	(3)	(4)
i)	Total bacterial count per g, <i>Max</i>	50 000	IS : 5402-1969*
ii)	Coliform bacterial count per g, <i>Max</i>	10	IS : 5401-1969†
iii)	<i>Salmonella</i> bacteria	Nil	IS : 5887-1970‡

*Method for plate count of bacteria in foodstuffs.

†Methods for detection and estimation of coliform bacteria in foodstuffs.

‡Methods for detection of bacteria responsible for food poisoning and food-borne diseases.

3. PACKING AND MARKING

3.1 Packing — The material shall be packed in polyethylene or polyethylene-lined jute bags, or in clean tin plate containers. When packed in bags the mouth of each bag shall be either machine- or hand-stitched. If hand-stitched, the mouth shall be rolled over and stitched. Stitches shall be in two cross-rows with at least 14 stitches in each row.

3.2 Marking — The following particulars shall be marked or labelled on each container :

- Name of the material,
- Name and address of the manufacturer,
- Batch or code number,
- Net mass, and
- Date of manufacture.

3.2.1 Each container may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification that may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

4. SAMPLING

4.1 Representative samples of the material shall be drawn and tested for conformity to this standard as prescribed in **5** of IS : 5315-1969*.

5. TESTS

5.1 Tests shall be carried out as prescribed in **2.2** and **2.3**, and Tables 1 and 2.

5.2 Quality of Reagents— Unless specified otherwise, pure chemicals and distilled water (*see* IS : 1070-1960†) shall be employed in tests.

NOTE— ‘Pure chemicals’ shall mean chemicals that do not contain impurities which affect the test results.

*Methods of sampling for milled cereals and pulses products.

†Specification for water, distilled quality (*revised*).

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